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| 09/844,398      | 04/27/2001  | Chakkalamattam J. Paul | AUS92000858US1      | 1317             |

7590 05/02/2005  
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EXAMINER

OSMAN, RAMY M

ART UNIT PAPER NUMBER

2157

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/844,398

Applicant(s)

PAUL ET AL.

Examiner

Ramy M. Osman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

1. This communication is in response to amendment filed 2/7/2005.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1 and 3-7 rejected under 35 U.S.C. 102(e) as being anticipated by Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999).**

4. In reference to claims 1, 18 and 35, Intel teaches a method, an apparatus and a computer program product for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

receiving at the server device a boot request from the client device, wherein the client device requires boot files uniquely configured for the client device (see pages 12-14, step 5 and Figure 2-1, step 5);

in response to receiving the boot request, generating a boot response to the client device that directs the client device to download boot files from the server device (see pages 12-14, step 6 and Figure 2-1, step 6); and

sending a boot response to the client device, wherein the boot response directs the client device to download boot files from the server device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from all client devices on the network (see pages 12-14, steps 6&7 and Figure 2-1, steps 6&7).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 2 and 9-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Yoshida et al (US Patent No 6,401,121).**

7. In reference to claims 2,19 and 36, Intel teaches the method, the apparatus and the computer program product of claims 1,18 and 35 respectively.

Intel fails to explicitly teach prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device. However, Yoshida teaches prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device (Abstract and Summary).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

8. In reference to claim 3,20 and 37, Intel teaches a method, an apparatus and a computer program product for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

receiving at the server device a boot request from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a boot request from any client on the network (see pages 12-14, step 5 and Figure 2-1, step 5);

in response to a determination that the server device is able to service an additional boot request, sending a boot response to the client device, wherein the boot response to the client device to download boot files from the server device (see pages 12-14, steps 6&7 and Figure 2-1, steps 6&7).

Intel fails to explicitly teach determining whether or not the server device is able to service an additional boot request. However, Yoshida teaches prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device (Abstract and Summary).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

9. In reference to claims 5, Intel teaches the method of claim 3 further comprising:

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executing a boot service on the server device for processing a PxE-extended Boot Service Discover message from a client (Figure 2-1).

10. **Claims 4 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Yoshida et al (US Patent No 6,401,121) in further view of Microsoft Corp. ('Description of PXE Interaction Among PXE Client, DHCP, and RIS Server', 12/29/1999).**

11. In reference to claims 4,21 and 38, Intel teaches the method, the apparatus and the computer program product of claims 3,20 and 37 respectively, further comprising:

wherein a boot request is formatted as a PxE-extended (Preboot Execution Environment extended) DHCP Request message, and wherein the boot response is a PxE-extended DHCP Ack message; and (see pages 12-14, step 4 and Figure 2-1, step 4).

Intel disclose executing a proxy DHCP service on a DHCP server and discloses a Boot server (Figure 2-1). Intel fails to explicitly teach executing a proxy DHCP (Dynamic Host Configuration Protocol) service on the server device for processing a boot request. However, Microsoft teaches where the DHCP server (and subsequently the proxy DHCP service, which is an inherent part) and the Boot server being on the same server for the purpose of shortening communication between clients and servers.

It would have been obvious for one of ordinary skill in the art to modify Intel by making the DHCP server (and subsequently the proxy DHCP service, which is an inherent part) and the Boot server being on the same server as per the teachings of Microsoft for the purpose of shortening communication between clients and servers.

12. **Claims 6,23 and 40 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Microsoft Corp. ('Description of PXE Interaction Among PXE Client, DHCP, and RIS Server', 12/29/1999).**

13. In reference to claims 6,23 and 40, Intel teaches a method, an apparatus and a computer program product for facilitating a remote boot process in a client device, wherein the client device and the server device reside on a network, the method comprising the steps of:

receiving at the server device a PXE DHCP Request message from the client device, wherein the server device is one of a plurality of boot servers on the network, and wherein the server device is able to respond to a PXE DHCP Request message from any client on the network (see pages 12-14, step 5 and Figure 2-1, step 5);

sending from the server device a PXE DHCP Ack message to the client device, wherein the PXE DHCP Ack message directs the client device to download boot files from the server device (see pages 12-14, steps 6&7 and Figure 2-1, steps 6&7).

Intel disclose executing a proxy DHCP service on a DHCP server and discloses a Boot server (Figure 2-1). Intel fails to explicitly teach executing a proxy DHCP (Dynamic Host Configuration Protocol) service on the server device for processing a boot request. However, Microsoft teaches where the DHCP server (and subsequently the proxy DHCP service, which is an inherent part) and the Boot server being on the same server for the purpose of shortening communication between clients and servers.

It would have been obvious for one of ordinary skill in the art to modify Intel by making the DHCP server (and subsequently the proxy DHCP service, which is an inherent part) and the Boot server being on the same server as per the teachings of Microsoft for the purpose of shortening communication between clients and servers.

14. In reference to claims 7,24 and 41, Intel teaches the method, the apparatus and the computer program product of claims 6,23 and 40 respectively, further comprising:

Receiving at the server device a PXE Boot Service Discover message from the client device (see pages 12-14, step 5 and Figure 2-1, step 5);

Processing the received PXE Boot Service Discover message within a boot service on the server device (see pages 12-14, steps 3-7 and Figure 2-1, steps 3-7);

Sending from the server device a PXE Boot Service Ack message to the client device (see pages 12-14, step 6 and Figure 2-1, step 6).

15. In reference to claims 8,25 and 42, Intel teaches the method, the apparatus and the computer program product of claims 7,24 and 41 respectively, further comprising:

receiving at the server device an NBP (Network Bootstrap Program) Download Request message from the client device (see pages 12-14, step 7 and Figure 2-1, step 7);

processing the received NBP Download Request message within a TFTP (Trivial File Transfer Protocol) service on the server device; and downloading from the server device an NBP file to the client device (see pages 12-14, step 7 and Figure 2-1, step 7); and

downloading from the server device an NBP file to the client device (see pages 12-14, step 7 and Figure 2-1, step 7).



16. **Claims 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Intel Corp ('Preboot Execution Environment (PXE) Specification', 9/20/1999) in view of Microsoft Corp. ('Description of PXE Interaction Among PXE Client, DHCP, and RIS Server', 12/29/1999) in further view of Yoshida et al (US Patent No 6,401,121).**

17. In reference to claims 9-11,26-28 and 43-45, Intel teaches the method, the apparatus and the computer program product of claims 6,23 and 40 respectively, including receiving a response from an available boot server among a plurality of boot servers and PXE extended DHCP Ack messages (see pages 12-14 and Figure 2-1). Intel does not explicitly teach prior to sending a boot response to the client device, determining that the server device has sufficient resources to service a remote boot process for an additional client device; preventing a server device from servicing additional client device if the server device has insufficient resources; and monitoring availability of the server device to adequately service additional processes. However, Yoshida teaches prior to sending a server response to a client device, determining that the server device has sufficient resources to service a request for an additional client device (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

18. In reference to claims 12-14,29-31 and 46-48, Intel teaches the method, the apparatus and the computer program product of claims 11,28 and 45 respectively. Intel fails to explicitly teach computing the availability of the server device to adequately service an additional remote boot process based upon resources within the server device; and communicating available resources

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within the server device to at least one other boot server in the plurality of boot servers on the network. However, Yoshida teaches calculating load counts and availability of servers to service additional requests (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

19. In reference to claims 15-17,32-34 and 49-51, Intel teaches the method, the apparatus and the computer program product of claims 10,27 and 44 respectively,. Intel fails to explicitly teach stopping service on the server device if the server device has insufficient resources for servicing an additional remote boot process; restarting a service on the server device if the server device has sufficient resources for servicing an additional remote boot process; communicating an execution status of the service on the server device to at least one other boot server in the plurality of boot servers on the network. However, Yoshida teaches not responding if insufficient resources, responding if sufficient resources, and server status (Summary, column 5 lines 1-40, column 8 lines 20-45 and column 10 line 32 – column 11 line 60).

It would have been obvious for one of ordinary skill in the art to modify Intel by defining an available boot server as a server with sufficient resources as per the teachings of Yoshida so server loads can be distributed and prevent server overload (i.e. exceeded load capacity).

***Response to Amendment***

20. Examiner acknowledges applicants amendment filed 2/7/2005. No claims were amended, cancelled or added.

***Response to Arguments***

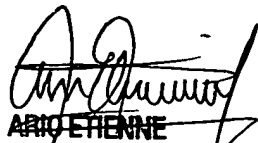
21. Applicant's arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M. Osman whose telephone number is (571) 272-4008. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMO  
April 21, 2005

  
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